

Midwest Climate Change Workshop
Oct 26-27, 2010
USEPA - Regional Office, Chicago, IL

Day 1 (Tuesday) –

9:00 – 9:10	Welcome & Workshop Introduction (Britta Bierwagen) Workshop goals, format, and products
9:10 – 9:30	Round robin – Participant Introductions (introduce yourself, talk about what you and your organization are doing on the climate change front, and how you view climate change in the context of your program)
9:30 – 10:30	Interactive Session on Vulnerabilities (Anna Hamilton) Discuss regional characteristics of the Midwest. What makes this region different from other regions? What are the main stressors in Midwestern streams? Which areas are most vulnerable and resilient to climate change effects? What environmental factors characterize these areas (considerations may include stream type, stream size, elevation, groundwater inputs, human elements (i.e. land use change))? Which organisms are most vulnerable to climate change effects? We will show various maps to inform our discussion of landscape-scale vulnerabilities.
10:30 – 10:45	Break
10:45 – 11:40	Presentation: Re-evaluation of Ohio Reference Condition and Biocriteria Thresholds Based on 10-Year Interval Resampling (Ed Rankin)
11:40 – 12:00	Break to get lunch (we've muted ourselves!)
12:00 – 1:00	Lunchtime Presentation: Part 1: Overview of the USGS Climate Effects Network; Part 2: Establishing a Collaborative Multipurpose Long Term Reference Site Network for Freshwater Streams in the United States (Jeff Deacon, USGS)
1:00 – 1:25	Presentation: Re-evaluation of Ohio Reference Condition continued (Chris Yoder)
1:25 – 2:45	Presentation & Interactive Session on Indicators Presentation: Results from temperature and hydrologic sensitivity work in Ohio (Ed Rankin & Chris Yoder) Presentation will focus on to what extent climate change effects can be detected in historical biomonitoring data in Ohio using available

indicators; are there particular taxa that appear to be more vulnerable or more resilient to climate change effects? Will also discuss cumulative effects of reduced flows, increasing temperatures, and legacy habitat impacts on stream pH; how will this affect the ability of streams to assimilate (or fail to assimilate) primary nutrients, and how might this impact permitting?

Presentation: Summary of results from pilot studies in Maine, North Carolina and Utah (Anna Hamilton)

Discussion: What are the similarities and differences between results from the Ohio pilot study vs. results seen in other regions? Do the indicators and trends (or lack of trends) match with your expectations and experiences? Based on the results from these pilot studies, how do you think climate change may impact your bioassessment program?

2:45 – 3:00 Break – running a little late. We'll start about 3:15

3:00 – 3:30 **Presentation & Interactive Session on the Freshwater Biological Traits Database**

Demonstration of the online traits database to show ways in which people can use it and contribute to it (Jen Stamp)

3:30 – 4:00 **Presentation & Interactive Session on Gaps**

Presentation: Gaps that we see thus far (Jen Stamp)

Discussion of these and any additional gaps from participants

Where are the gaps in our knowledge (overall, considering all discussions from today)? What can we do to fill these gaps? Should we/can we collect additional types of data? If so, what more should we be collecting (e.g., abiotic variables, species traits information, other indicators)? What collection methods would be best suited to detecting climate change effects in stream systems? If we are able to start collecting a set of standardized parameters across the region, what parameters should we focus on, and where would we store these data (i.e. explore the concept of a regional database?) How can the traits database be used for some of these efforts? How do we address confounding factors?

4:00 - 5:00 **Open Discussion**

Day 2 (Wednesday) -

8:00 – 8:30	Questions/recap of Day 1 – revisit map, vulnerability questions
8:30 – 9:30	Presentation: Ohio ELOHA Project Results: Development of Ecological Flow Thresholds Within the Ohio Tiered Aquatic Life Use Framework (Ed Rankin & Chris Yoder)
9:30 – 10:30	Presentation: Overview of efforts of the Wisconsin Climate Change Initiative group (Mike Miller)
10:30 – 10:45	Break
10:45 – 12:00	<p>Presentation & Interactive Session on Monitoring Design</p> <p>Presentation: Concept of climate change monitoring network (Britta)</p> <p>Discussion on how to modify sampling designs: how can we build on current monitoring designs to maximize ability to detect small, long-term trends? Are ag-affected ecoregions insensitive or resilient to climate change for now due to other water quality management? Can aspects of sampling design, including cross-regional comparisons, help separate causes? How is the ability to detect climate change effects influenced by sampling design?</p> <p>Goal: Understand limitations of current sampling designs for detecting climate change-related effects and potential options for modifying sampling designs to detect such effects.</p>
12:00 - 12:30	Lunchtime webinar presentation: CC monitoring network in Puget Sound Ecoregion (Gretchen Hayslip/Lilian Herger, R10)
12:30 – 1:00	Taking lunch break
1:00 – 1:30	<p>Presentation & Interactive Session on Reference sites</p> <p>Looking at maps, where are reference sites located in each state/ecoregion? Are these fixed or probabilistic sites? How often are these monitored? How often could they be monitored? What criteria are being used to select reference sites? If a regional monitoring network were to be established, what would be an appropriate classification template for the Midwest (i.e. what level of stratification/what spatial scale would be appropriate)? Do you have mechanisms for protecting reference sites in your state or on your tribal lands for the long-term?</p> <p>Goal: Understand the regional context of sampling sites and identify candidate sites for long-term monitoring and testing hypotheses of climate-related effects on indicators</p>

1:30 – 2:30

Wrap-up discussion: How can you use vulnerability information (of sites and of metrics)?

How should we proceed with the information on sensitivities of indicators, metrics, indices, predictive models, and condition assessments?

How do you see climate change in the context of your biomonitoring program? What are your current priorities? How might CC fit into them? What would your program have the capacity to do? How might CC work tie into other existing work (i.e. BCG?)

What opportunities exist for collaboration?

Goal: Produce list of recommendations and thoughts from participants